I claim:

1. A digital security image, to be arranged on or in a carrier, particularly a document, such as bonds or other documents the authenticity or origin of which is of importance, and having at least a first and second security characteristic visually almost imperceptibly incorporated in the digital security image, wherein the first security characteristic is detectably copied on a copy when copying the carrier and the second security characteristic is not copied onto said copy when copying the carrier.

2. The digital security image according to claim 1, in which the resolution of the security characteristic is higher than the resolving power of the human eye.

3. The digital security image according to claim 2, in which the resolution of the security characteristics is higher than 100 dpi.

4. The digital security image according to claim 1, in which an image or a part of an image visually almost imperceptibly comprises the first and second security characteristic.

5. The digital security image according to claim 1, in which the first and second security characteristic have been added to the Fourier amplitude spectrum of the original image.

6. The digital security image according to claim 5, in which the first security characteristic has been added to a first frequency range of the Fourier amplitude spectrum of the original image, and a second security charac-

teristic to a second frequency range of the Fourier spectrum of the original image.

7. The digital security image according to claim 5 or 6, in which a Fourier amplitude spectrum of the second security characteristic has been added to the Fourier amplitude spectrum of the original image, and Fourier phase spectrum of the second security characteristic has been added to the Fourier phase spectrum of the original image.

8. The digital security image according to claim 1, in which the original image is a colour image.

9. The digital security image according to claim 8, in which the security characteristics have been incorporated in at least one colour component of the original image.

10. the digital security image according to claim 9, in which the security characteristics have been incorporated in the same colour component.

11. The digital security image according to claim 1, in which a first security characteristic has been incorporated in a frequency range of the Fourier amplitude spectrum which has a resolution of approximately 150-600 dpi in the spatial domain and a second security characteristic in a frequency range of the Fourier amplitude spectrum which has a resolution higher than the resolution of the first security characteristic in the spatial domain.

12. A digital security image provided with at least a first and a second security characteristic at substantially the same position on or in a carrier, particularly a document, in which the first security characteristic and the second security characteristic have a frequency that is higher than visually perceptible to the human eye, in which furthermore the first security charac-

teristic in the Fourier frequency domain has a frequency that is lower than the highest of the print and scan resolution of copying equipment and the second security characteristic in the Fourier frequency domain has a frequency of at least twice the highest of the print and scan resolution of copying equipment.

13. A digital security image provided with at least a first and a second security characteristic on substantially the same position on or in a carrier, particularly a document, in which the first security characteristic in the Fourier domain is in a range which has a frequency of between 150 and 400 dpi, preferably between 250 and 400 dpi in the spatial domain, and the second security characteristic in the Fourier frequency domain is in a range which has a resolution that is higher than 400 dpi, preferably higher than 800 dpi, in the spatial domain.

14. The digital security image according to claim 13, in which the first and second security characteristic have been incorporated in the amplitude spectrum of the Fourier frequency domain.

15. A digital security image provided with a secured image, in which the amplitude spectrum of the Fourier transformed of the secured image is an addition sum of the amplitude spectrum of the Fourier transformed of the original image, a first image having frequencies in the amplitude spectrum which have a resolution higher than 150 dpi in the spatial domain and the transformed of the amplitude spectrum of the Fourier transformed of a second image having frequencies in the amplitude spectrum which have a resolution in the spatial domain that is higher than the resolutions of the first image.

16. The digital security image according to claim 15, in which the transformation is a low-pass filter followed by a transformation which converts the

low frequencies into frequencies above a threshold value, the transformations being carried out in the Fourier frequency domain.

17. A method for arranging security elements on a carrier, particularly a document, in which a first security characteristic with a resolution higher than 100 dpi and a second security characteristic with a resolution higher than the resolution of the first security characteristic and higher than a display device is arranged in an original image for obtaining a security image, after which the security image is arranged on the carrier as security characteristic.

18. A Method for detecting a digital security image according to one or more of the preceding claims, in which an image is converted into a representation that is computer-processable, software loaded in the computer memory applies a high-passage filter operation and a diode function operation on the representation, and compares the result with the computer-processable representation of the first security image, calculates the Fourier transformed of the representation, and compares the amplitude spectrum to the second security image.

19. A device for detecting the security characteristics in or on a carrier, particularly a document, or an image on a carrier, in which the device has been provided with a recording device for recording an image of the document or the image in computer-processable form, a computer connected to the recording device, means for transmitting the image from the recording device to a computer connected to the recording device, which computer has been provided with a memory, a calculating unit provided with software for calculating the Fourier transformed of the image in the memory, and display means for displaying an assessment of the authenticity of the image or the carrier.

20. A carrier for holding digital data, such as a hard disk, optical disk, computer memory, holding a digital security image in a computer-procesable form which, when reproduced on a carrier, comprises at least a first and second security characteristic visually almost imperceptibly incorporated in the digital security image, wherein the first security characteristic is detectably copied on a copy when copying the carrier and the second security characteristic is not copied onto said copy when copying the carrier.

21. Software, suitable for arranging and detecting a first and second security characteristic in a digital sucurity image according to one or more of the preceding claims.

22. A carrier provided with software for the operation of a computer, suitable for carrying out the method according to one or more of the preceding claims 18 or 19.

23. A computer, provided with a memory loaded with software, suitable for carrying out the method according to one or more of the preceding claims 18 or 19.

24. A carrier, particularly a document, provided with a digital security image according to any one of the preceding claims.

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